ORIGINAL ARTICLE

Navigating Complex Implementation Contexts: Overcoming Barriers and Achieving Outcomes in a National Initiative to Scale Out Housing First in Canada

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Highlights

- Housing First can be implemented beyond demontration sites without new resources.
- Using an intentional implementation strategy communities implemented high-fidelity programs.
- One key implementation challenge was accessing affordable housing and housing subsidies.
- By helping develop housing specialists and reflective practice, the TTA facilitated effective implementation.

Abstract The scaling out of Housing First (HF) programs was examined in six Canadian communities, in which a multi-component HF training and technical assistance (TTA) was provided. Three research questions were addressed: (a) What were the outcomes of the TTA in terms of the development of new, sustained, or enhanced programs, and fidelity to the HF model? (b) How did the TTA contribute to implementation and fidelity? and (c) What contextual factors facilitated or challenged implementation and fidelity? A total of 14 new HF programs were created, and nine HF programs were sustained or enhanced. Fidelity assessments for 10 HF programs revealed an average score of 3.3/4, which compares favorably with other HF programs during early implementation. The TTA influenced fidelity by addressing misconceptions about the model, encouraging team-based practice, and facilitating case-based dialogue on site specific implementation challenges. The findings were discussed in terms of the importance of TTA for enhancing the capacities of the HF service delivery system—practitioners, teams, and communities—while respecting complex community contexts, including differences in policy climate across sites. Policy climate surrounding accessibility of housing subsidies, and use of Assertive Community Treatment teams (vs. Intensive Case Management) were two key implementation issues.

Keywords Scaling out · Implementation · Housing First · Homelessness · Fidelity · Complexity · Implementation science

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The At Home/Chez Soi research demonstration project implemented and evaluated Housing First (HF) in five Canadian communities (Goering et al., 2011). This article describes a follow-up initiative that aimed to scale out the HF model in six Canadian communities. In a previous paper (Worton et al., 2018), we described the earlier stages of implementation (i.e., exploration, installation). In this paper, we discuss findings from the later stages in which services were initially or fully implemented. While At Home/Chez Soi was a well-resourced research demonstration project, this paper describes the dynamics of implementation in real-world service settings. As such, we examine, through the lens of implementation science, how to expand evidence-based interventions within

complex community contexts with relatively limited resources.

Housing First

The Pathways HF approach consists of two key components: housing and support (Tsemberis, 2015). Rent subsidies are provided so that consumers can access permanent rental market housing in the community. The support services of HF typically consist of Assertive Community Treatment (ACT) for individuals with high needs or Intensive Case Management (ICM) for those with moderate needs (Goering et al., 2011; Tsemberis, 2015).

Canada's At Home/Chez Soi Project

Administered by the Mental Health Commission of Canada, At Home/Chez Soi was a five-city research demonstration project that used a randomized design to evaluate the effectiveness of the HF approach, combined with ACT for those with high needs or ICM for those with moderate needs, in ending homelessness among over 2000 people with mental illness (Goering et al., 2011). The research demonstrated that compared to usual care, HF led to significantly greater housing stability, as well as improving community functioning and quality of life (Aubry et al., 2016; Stergiopoulos et al., 2015). Funding for rent subsidies and for ACT and ICM programs was provided, as was training and technical assistance (TTA) in the Pathways HF model (Tsemberis, 2015). Fidelity assessments of the HF teams were conducted in both early and later stages of implementation and showed high levels of adherence to the model's key features (Macnaughton et al., 2015).

Scaling Out Housing First

An important concern in implementation is how to expand or "bring to scale" evidence-based practices in real-world settings. Westley and Antadze (2010) have made a distinction between "scaling up," moving research into the transformation of policy and practice, and "scaling out," that entails expanding a program model into new service delivery settings. Similarly, Aarons, Sklar, Mustanski, Benbow, and Brown (2017) have used the term "scaling out" to refer to the introduction of the evidence-based practice to new service delivery systems or new populations. In the current study, we examine the scaling out of HF to new service delivery systems in different communities than the original At Home/Chez Soi sites or to new populations.

Following the conclusion of At Home/Chez Soi, and based on the success of HF in reducing homelessness, the Canadian government renewed and repurposed its Homelessness Partnering Strategy that funds homelessness initiatives in Canadian communities (Macnaughton, Nelson, Goering, & Piat, 2017). Its new mandate was to reorient existing approaches to use the HF model. To assist communities in making this transition, the Mental Health Commission conducted a HF TTA initiative from 2013 to 2016 to scale out HF to new communities or populations. Importantly, one of the major challenges that communities faced was that there was no new money to fund rent subsidies. New resources had to be identified or reallocated from existing funding.

The HF approach has spread steadily throughout the United States and elsewhere (Padgett, Henwood, & Tsemberis, 2016). In the United States, the model originated with the Pathways HF program in New York City in the 1990s. About a decade later, after accumulating evidence for its effectiveness, there were several initiatives by Pathways and by the U.S. Interagency Council on Homelessness to scale out HF to other cities. More recently, a joint venture by Housing and Urban Development and the Veterans Administration to end homelessness for veterans created HF programs across the United States (Austin et al., 2014; Kertesz, Austin, Holmes, DeRussy, & Lukas, 2017). The HF model is also being implemented in Europe, as part of a European Union-wide initiative (Greenwood, Stefancic, Tsemberis, & Busch-Geertsema, 2013).

A study of the implementation process of the Veteran's Administration initiative (Kertesz et al., 2017) and others in Europe and Australia (Greenwood et al., 2013; Johnson, 2012), have shown both the promise and pitfalls of implementing HF across diverse contexts. Greenwood et al. (2013) described implementation successes and challenges of a six country European initiative, and Johnson (2012) discussed HF implementation in Australia in light of concerns about use of HF "rhetoric" and implementation that drifts away from high-fidelity practice.

Implementation Science

The implementation of evidence-based programs has been hampered by problems of resource allocation, "program drift," and limited experience in operating such programs. To address these challenges, attention is being focused on developing research-informed implementation strategies and using implementation science principles to bring evidence-based programs to scale in real-world contexts. To frame our investigation of scaling out HF, we draw on the implementation science literature with attention to the stages of implementation, the Interactive Systems Framework (ISF), and factors that have been shown to facilitate or challenge the implementation of HF programs. While a previous paper (Worton et al., 2018) dealt with barriers and

facilitators in earlier implementation stages, the current paper concentrates on the barriers and facilitators in the later implementation stages of the project. We also describe the ISF of implementation, which was the guiding framework for the TTA and the research on this initiative. Later in the paper, in light of our results, we consider the implications for both implementation practice and science.

Stages of Implementation

Fixsen, Blase, and Van Dyke (2011) have identified four main implementation stages. The first stage is *exploration*, which focuses on community needs, assessing the fit between those needs and a particular program model, and determining feasibility of implementing a program. The second stage is *installation*, during which the structural and operational requirements of the program (e.g., funding, staffing, space, partnerships) are established. The third stage is *initial implementation*, when staff is trained and the first clients are admitted. The fourth stage is *full implementation*, which entails refining typical practices and integrating the program into the host organization and community. The exploration and installation stages have also been referred to as pre-implementation (Chamberlain, Brown, & Saldana, 2011) or planning (Nelson et al., 2013).

The Interactive Systems Framework

Wandersman et al. (2008) have developed the ISF as a framework for understanding and guiding the scaling out of evidence-based programs. The ISF consists of three systems that are relevant to implementation. First, there is the implementation *delivery system*, which, in the case of HF, consists of organizations, programs, and stakeholders who provide or receive services relating to homelessness in the community. Second, there is the implementation *support system*, in which consultants provide TTA and quality assurance to stakeholders in the *delivery system*. Applied to HF, the *support system* provides TTA in the HF model, including fidelity assessments to help programs improve their operations. Third, there is the *knowledge synthesis system*, which includes available and accessible information about evidence-based programs, such as HF, and their implementation. These three systems are embedded in a larger context that can facilitate or challenge HF implementation, which includes evidence, climate, policy, and funding.

Faciltators of and Challenges to Implementation in Housing First

Facilitators and challenges can occur in the *support*, *delivery*, and/or *knowledge synthesis* systems (Weatherson, Gainforth, & Jung, 2017), and each of these were experienced during the At Home/Chez Soi initiative. Regarding the *knowledge synthesis* system, having clearly communicated principles (or "key ingredients") that were adaptable to local contexts made the HF model appealing and facilitated implementation (Nelson et al., 2014). However, since the intervention was multi-faceted, it took time to implement fully, and for practitioners to develop competence and experience in its relative advantage over previous practice (Macnaughton et al., 2015).

Regarding the delivery system, one ongoing challenge was housing availability (Macnaughton et al., 2015; Nelson et al., 2014). In addition, implementation was particularly challenging for ICM teams which (unlike ACT teams which directly controlled more resources) needed to develop a number of partnerships to implement a comprehensive support array. Leadership provided by the team director and host agency leader helped implement a comprehensive service array as well as establish a recovery-oriented climate consistent with HF fidelity principles (Macnaughton et al., 2015).

Regarding the support system, in addition to having a centrally developed TTA strategy, each of the sites had a local coordinator who helped align the multiple partners. One initial challenge was to establish a clear understanding about accountability within this multi-partner initiative between the research, service team leads and the site coordinator. Nonetheless, leadership provided by the site coordinator was instrumental to implementation, as was the TTA provided by Pathways. Fidelity assessment was also a key implementation facilitator, which provided corrective feedback through the course of the initiative that helped program staff address key implementation challenges such as housing choice (Nelson et al., 2014).

Current Study and Research Questions

The current study is an examination of a TTA initiative designed to scale out HF in real-world service settings, using the principles of implementation science to guide the process through its various stages. First, we sought to determine the extent of implementation fidelity demonstrated by the delivery system. Secondly, we sought to understand the influence of the support system on fidelity, and on the implementation process in general. Finally, we wished to understand the influence of the support systems' context on implementation, including both the inner program context, as well as the wider context surrounding the HF program, including policy, funding, and resources. In this paper, we examine the dynamics of initial and full implementation in a number of contexts and/or populations that were different from At Home/Chez Soi. While

there were fewer resources and less control over implementation in the current study, there were dedicated resources for TTA to assist with HF implementation. This study addressed the following research questions.

1. What were the outcomes of the TTA in terms of new HF programs created, the continuation of existing programs, and fidelity to the HF model? This question focuses on changes in the delivery system.
2. How did the TTA contribute to implementation and fidelity? This question focuses on the role of the support system in creating changes in the delivery system.
3. What contextual factors facilitated or challenged implementation and fidelity? This question focuses on the influence of the inner program context (e.g., practitioners, leadership, and host agency culture) and how the wider context (e.g., climate, policy, and funding) influences changes in the delivery system.

Methods

Site Selection

Six communities participated in the research. These sites comprise different community types, including metropolitan (Winnipeg, Halifax), suburban (York Region, Fraser), and mid-size cities (Saskatoon and Waterloo Region). The project sites also span across Canada, including the West Coast, the Prairies, Ontario, and Atlantic Canada. The project sites feature cultural diversity, with communities where Indigenous people constitute the majority of people experiencing homelessness (e.g., Saskatoon, Winnipeg).

A more detailed description of each of the communities is provided in the supplementary materials.

Training and Technical Assistance

A 3-year (2013–2016) TTA program, funded by the Mental Health Commission and led by Dr. Sam Tsemberis and his team, was provided to 18 communities, including six that participated in this study. The TTA strived to assist both new HF programs, that began to operate between 2013 and 2016, and continued HF programs that were already operational prior to 2013. The TTA included:

Initial and Follow-Up Training

All but one of the communities participated in an initial 2-day training with one day dedicated to HF planning with a small group of key stakeholders (e.g., housing and mental health administrators) and a second day that provided an introduction to the HF program philosophy and practice that was targeted at service-providers and other interested parties in the community.[1] Attendance at the initial training averaged 85 people ($N = 424$), and 71% of those attending completed a workshop evaluation form ($n = 302$, $X = 60$ per site). The majority of participants were from the mental health and housing sectors, with considerable experience (average almost 10 years) in serving homeless people. On 5-point scales, participants rated the comprehensiveness of information ($X = 4.1/5$) and their overall satisfaction ($X = 4.0/5.0$) with this training quite high. All communities also received a 2-day training one to two years after the initial training, and two communities (Fraser and Saskatoon) also participated in an additional follow-up training. These trainings focused on case consultation and skills training (e.g., client engagement) with ACT and ICM staff. Attendance at the second and third trainings averaged 50 people ($N = 401$), and 38% of those attending completed a workshop evaluation form ($n = 54$, $X = 21$ per site). On five-point scales, participants rated the comprehensiveness of information ($X = 4.0/5$) and overall satisfaction ($X = 4.0/5$) very high.

Regional Training

Two-day regional training events were held in the West Coast, the Prairies, Ontario, and the Atlantic provinces. While these events were geared to participants new to HF, stakeholders from the six research communities also participated. These training sessions included a keynote, plenary sessions, a selection of specialized workshops (e.g., housing procurement), small and large group sessions focused on network development, and a workshop on the HF Toolkit, a web-based tool that consolidated implementation learnings from At Home/Chez Soi (Polvere et al., 2014). Attendance at the regional training events averaged 105 people ($N = 420$), and 66% of those attending completed a workshop evaluation form ($n = 276$, $X = 69$ per site). The majority of attendees were service-providers and agency directors. Regional training evaluations revealed very good ratings, on five-point scales, for the influence of the training on their overall knowledge of HF ($X = 3.7/5$), comprehensiveness ($X = 4.0/5$), and overall satisfaction ($X = 3.9/5$).

Community of Practice Teleconference Calls

Teleconferences were held on a bi-monthly basis in the four regions. These calls were facilitated by TTA staff with agendas including updates from each

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[1] Halifax held a training event just prior to the commencement of the research.

community and discussion driven by questions raised by local stakeholders around specific aspects of HF implementation.

Regular TTA Conference Calls

Over the course of the project, TTA staff and researchers engaged in regular (usually bi-monthly) conference calls with project partners, during which updates were provided on HF implementation. These calls effectively functioned as consultation and also enabled trainers to tailor subsequent TTA activities to communities' needs.

Data Collection

A team of five researchers worked with the six communities. One researcher worked with two communities, while all the other researchers worked with one specific community. The TTA team conducted the fidelity assessments, while the five-member research team conducted the interviews, recorded their field notes, and, in some cases, assisted with the fidelity assessments.

Fidelity Measure

The Pathways HF Fidelity Scale (Stefancic, Tsemberis, Messeri, Drake, & Goering, 2013) was used to assess program implementation along 38 items within five broader domains: Housing Choice and Structure, Separation of Housing and Services, Service Philosophy, Service Array, and Program Structure. Each of the items was rated on a four-point scale (with a high score indicating a high level of fidelity). Sample items and their anchors are provided in Table 1 for each of the five domains. This fidelity measure has been found to have good psychometric properties (Nelson et al., 2014) and to be directly related to positive outcomes (Goering et al., 2016).

Fidelity assessments of 10 HF programs were conducted by TTA trainers and, in some cases, the researchers, as there was not sufficient time or resources to assess all of the new or existing programs. Only programs that had their full staff complement were assessed, which eliminated several new programs in Fraser and Winnipeg for assessment. Assessment of new programs was done in their first year of operation. Existing programs varied in the amount of time that they had been operating from 1 year to several years.

The fidelity assessments consisted of full-day site visits and included program meeting observations, staff interviews, consumer chart reviews, and a consumer focus group. Approximately 6–12 staff members were interviewed at each program. Interviews were semi-structured and lasted about 45 minutes. The consumer focus groups lasted approximately 1 hour with 8–12 participants. The fidelity team also examined a random sample of 10 charts, including progress notes for the past month as well as the most recent treatment plans.

Qualitative Data

Focus groups and interviews. In the final year of the project, focus groups were conducted with stakeholders who led the implementation of HF programs in their communities. Also, a focus group was conducted with federal Homelessness Partnering Strategy staff responsible for HF implementation, and the two primary TTA staff members were interviewed. Thus, there were were two key informant interviews and seven focus groups, one with each of the six sites and one with the Homelessness Partnership Strategy staff. Altogether, 35 people participated in the interviews. There was a common interview protocol with questions pertaining to topics regarding HF implementation, including facilitators and barriers, and TTA activities. All interviews were digitally recorded and transcribed.

Field notes. Researchers participated in all TTA activities with the six communities, including training events, phone calls, and fidelity assessments. The field notes tracking form included some structured items, like the stakeholders who were present (which included a check list of relevant stakeholders), date and length of the meeting, type of activity (which included a list of activities), etc. There were also more open-ended items (e.g., a short statement of what was done, next steps/implications) for which the researchers wrote a narrative response. Agendas and minutes of meetings, handouts, and other discussion papers were included in the field notes. Field notes were recorded after all of the TTA activities in each community over the 3 years of the study.

Data Analysis

Fidelity Assessment Scoring

The fidelity team came together at the end of the assessment to assign numerical ratings to each scale item. A consensus process was used after discussion and input from all reviewers. These preliminary results were then shared with local stakeholders who provided input on the ratings. Following the fidelity visit, TTA staff wrote a fidelity report that included the numerical ratings for each item, along with a narrative description and more general comments and recommendations. This is the same process that was used in the At Home/Chez Soi implementation and fidelity research (Macnaughton et al., 2015).

Table 1 Sample items and anchors for the five domains of the pathways Housing First Fidelity Scale

Domain	Sample item	Anchors for scoring (1 = low, 4 = high)			
Housing structure and choice	Program participants choose the location and other features of their housing	1—Participants have no choice in the location, decorating, furnishing, or other features of their housing and are assigned a unit	2—Participants have little choice in location, decorating, and furnishing, and other features of their housing	3—Participants have some choice in location, decorating, furnishing, and other features of their housing	4—Participants have much choice in location, decorating, furnishing, and other features of their housing
Separation of housing and services	Extent to which program participants are not required to demonstrate housing readiness to gain access to housing units	1—Participants have access to housing only if they have successfully completed a period of time in transitional housing or outpatient/inpatient/residential treatment	2—Participants have access to housing only if they meet many readiness requirements such as sobriety, abstinence from drugs, medication compliance, symptom stability, or no history of violent behavior or involvement in the criminal justice system	3—Participants have access to housing with minimal readiness requirements, such as willingness to comply with program rules or a treatment plan that addresses sobriety, abstinence, and medication compliance	4—Participants have access to housing with no requirements to demonstrate readiness, other than agreeing to meet with staff face-to-face once a week
Service philosophy	Extent to which program participants choose the type, sequence, and intensity of services on an ongoing basis	1—Services are chosen by the service provider with no input from the participant	2—Participants have little say in choosing, modifying, or refusing services	3—Participants have some say in choosing, modifying, or refusing services and supports	4—Participants have the right to choose, modify, or refuse services and supports at any time, except one face-to-face visit with staff a week
Service array	Extent to which program offers services to help participants maintain housing, such as offering assistance with neighborhood orientation, landlord relations, budgeting and shopping	1—Program does not offer any housing support services	2—Program offers some housing support services during move-in, such as neighborhood orientation, shopping, but no follow-up or ongoing services are available	3—Program offers some ongoing housing support services including assistance with neighborhood orientation, landlord relations, budgeting, and shopping but does not offer any property management services, assistance with rent payment, and co-signing of leases	4—Program offers both assistance with move-in and ongoing housing support services including assistance with neighborhood orientation, landlord/neighbor relations, budgeting, shopping, property management services, assistance with rent payment/subsidy assistance, utility setup, and co-signing of leases
Program structure	Extent to which program has a minimal threshold of non-treatment related contact with participants	1—Program meets with less than 70% of participants 3 times a month face-to-face	2—Program meets with 70–79% of participants 3 times a month face-to-face	3—Program meets with 80–89% of participants at least 3 times a month face-to-face	4—Program meets with 90% of participants at least 3 times a month face-to-face

Field Notes and Interviews

A process of theme coding was used to analyze the qualitative interviews and field notes, which were used to inform the case study site reports (Braun & Clarke, 2006). Codes were grouped into larger themes regarding the factors that facilitated and challenged initial and full implementation of HF.

Case Studies

Site reports. Using a common template and the data noted above, researchers constructed case studies for the six sites (Stake, 2005). The site case studies consisted of descriptions of the context, HF stakeholders, implementation activities undertaken, TTA activities and evaluations, and facilitators of and challenges to

implementation. Final reports were written for each of the sites, and site stakeholders had an opportunity to review and comment on their reports.

Cross site-report. A cross-site report synthesized findings from the site reports. Two researchers conducted the cross-site analysis, working collaboratively to verify codes and themes to establish trustworthiness of the analysis. A draft of this final report was circulated among the core group of researchers, decision-maker partners, and stakeholders in each of the six communities to obtain their feedback, which was incorporated into the final report.

Trustworthiness

The trustworthiness of the qualitative data was established through several methods (Padgett, 2012). First, the researchers all had prolonged engagement with the sites for which they were responsible. Second, having two sources of qualitative data—interviews and field notes—enhanced trustworthiness. Third, two researchers coded the cross-site findings and the Principal Investigator contributed to the analysis. Fourth, a process of member-checking was employed using the site reports and cross-site reports. Members at each site provided feedback on these reports that were incorporated into the final analysis.

Findings

What Were the Outcomes of the Training and Technical Assistance in Terms of New Housing First Programs Created, the Continuation of Existing Programs, and Fidelity to the HF Model?

New and Existing Programs

In the six communities, 14 new HF programs were implemented, and and there were another nine existing programs, for a total of 23 HF programs (see Table 2). The majority of HF programs (19) are in the largest urban areas, Fraser and Winnipeg. In Winnipeg, there were five existing programs, three of which were At Home/Chez programs (Nelson et al., 2017). In the later stages of this research, four new HF ICM programs were implemented in Winnipeg. In Fraser, there were two existing HF ACT programs, two new HF ACT programs, and an additional five new HF ICM programs. All the other communities have one or two HF programs.

While Fraser has a combination of HF ACT and HF ICM programs, the predominant support model in the other five sites is ICM. Most of the new HF programs focus on people experiencing chronic homelessness and mental illness, but some new programs adapted HF to

Table 2 New vs. existing Housing First programs in the six communities

Community	Number of new vs. existing HF programs	Type of program—ACT vs. ICM	Number of programs for which fidelity assessments were completed
Fraser	New—7	2 ACT, 5 ICM	2 ACT
	Existing—2	2 ACT	2 ACT
Saskatoon	New—1	1 ICM	1 ICM
	Existing—0	—	Not applicable
Winnipeg	New—4	4 ICM	None
	Existing—5	1 ACT, 4 ICM	1 ACT, 1 ICM
Waterloo	New—0	—	Not applicable
	Existing—2	1 ACT, 1 ICM	1 ICM
York	New—1	ICM	1 ICM
	Existing—0	—	Not applicable
Halifax	New—1	ICM	1 ICM
	Existing—0	—	Not applicable
Total	New—14	2 ACT, 12 ICM	2 ACT, 4 ICM
	Existing—9	4 ACT, 5 ICM	3 ACT, 1 ICM

ACT, Assertive Community Treatment; HF, Housing First; ICM, Intensive Case Management.

serve youth, LGBTQ-two-spirited youth, women, seniors, and Indigenous people.

Fidelity to the Housing First Model

The TTA team and researchers did not have the capacity to conduct fidelity assessments for all of the 19 programs in Fraser and Winnipeg, several of which were implemented late in the study, and had not been operational for long enough to conduct a fidelity assessment. In Table 3, the scores for the 10 assessed programs on each of the five fidelity domains and the total score are reported; For comparison purposes, the average scores for 10 At Home/Chez Soi HF teams conducted early and later in implementation are included (Macnaughton et al., 2015). It is important to note that the fidelity levels achieved by the At Home/Chez Soi programs represent the "gold standard" for HF programs. In At Home/Chez Soi, program budgets for staffing, the provision of rent subsidies, ongoing training in the HF model by experienced Pathways HF staff, community of practices for program staff, and two external fidelity assessments provided ideal conditions for the incubation, development, and operation of high-fidelity HF programs. In contrast, the new HF programs implemented in the six communities represent conditions in which budgets are constrained; obtaining rent subsidies is challenging; training is more limited; implementation challenges are numerous; and local champions must

Table 3 Scores of Housing First programs on the pathways Housing First Fidelity Scale in the six communities[a]

| Community | Program | Fidelity domains | | | | | |
		Housing structure and choice	Separation of housing and services	Service philosophy	Service array	Program structure	Average
Fraser	Surrey (ACT)	3.6	3.9	3.2	3.5	3.3	3.5
	New Westminster/Tri-cities (ACT)	3.7	3.6	3.2	3.3	3.7	3.5
	Abbotsford/Mission (ACT)	3.2	3.8	3.3	3.6	3.6	3.5
	Surrey/Delta (ACT)	3.2	3.9	3.3	3.7	3.6	3.5
Saskatoon	Journey Home (ICM)	3.9	3.7	3.3	3.6	3.7	3.6
Winnipeg	Mount Carmel Clinic (ACT)	3.7	4.0	3.3	3.1	3.8	3.6
	CMHA Community Housing with Supports (ICM)	3.5	4.0	3.5	1.8	2.9	3.1
Waterloo	STEP Home (ICM)	2.9	3.6	3.0	2.8	3.0	3.1
York	Housing 2 Health (ICM)	2.4	3.8	3.6	2.4	3.4	3.1
Halifax	Mobile Outreach Street Health (ICM)	4.0	3.9	2.9	3.3	3.3	3.5
Average score		3.4	3.8	3.3	2.8	3.4	3.3
Average score for 10 At Home/Chez Soi Programs[b]	Early (9–13 months)	3.6	3.9	3.6	2.9	3.5	3.5
	Late (24–29 months)	3.6	3.9	3.6	3.4	3.5	3.6

ACT, Assertive Community Treatment; ICM, Intensive Case Management.
[a]Note that all scores are on a 1–4 scale, with high scores indicating a higher degree of fidelity.
[b]From Macnaughton et al. (2015).

scramble to put a HF program together with multiple partners and multiple funding sources.

The total average score for the 10 new and existing HF programs is 3.3/4, which is slightly lower than the total average score (3.5/4) of 10 At Home/Chez Soi programs at early implementation. All programs had a total average score of greater than 3.0/4, indicating a relatively high level of fidelity to the HF model. The highest average sub-scale score for the programs was 3.8/4 for the Separation of Housing and Services, which is comparable to that obtained for At Home/Chez Soi programs. The lowest total average sub-scale score for the programs was 2.8/4 for the Service Array domain, which again is quite comparable (2.9/4 at early implementation). Service Array is particularly challenging for ICM programs during early implementation because the program staff must create many different partnerships with other agencies to broker services for clients.

How Did the Training and Technical Assistance Contribute to Housing First Implementation and Fidelity?

In the initial stages of implementation, a main challenge for the TTA was to address general misconceptions and concerns about the model and whether it would work (Worton et al., 2018). Over time, teams' experiences of success helped allay these concerns. As teams moved beyond initial implementation, the main concern of the

TTA was providing more context-specific support, including strategies for dealing with situations involving complex support needs and/or repeat evictions. As discussed below, the TTA addressed through encouraging team-based practice, by problem-solving case-based scenarios, and by connecting communities with HF staff from other communities who had dealt successfully with similar implementation issues.

Addressing Concerns and Misunderstanding

Two common initial sources of concern were expressed, particularly by clinical service-providers. The first was the notion that "we are already doing Housing First." For instance, supportive housing providers who used low-barrier congregate housing approaches equated their approach with HF. The TTA team addressed this by clarifying that HF principles emphasize choice, as well the provision of intensive individualized support and that housing and services are managed as separate domains.

The second challenge was addressing doubt regarding whether the environment in the local community made high-fidelity implementation of HF feasible (e.g., having clientele whose needs were particularly challenging or unique). An associated concern was that the HF model, particularly the use of scattered-site apartments, would not work for the typical homeless clientele in that community.

The TTA addressed these perceptions by emphasizing research that documented that in fact, it is not possible to predict who will or will not succeed in HF based on clinical or demographic features (Volk et al., 2016). As one federal-level key informant said: "I think the message that was coming out quite strongly … that it was impossible to predict who was going to be successful." This same individual also pointed out, in later implementation, that once practitioners witness the impact of the model, they are more inclined to change their views. That is, once they saw that "people you might think, oh my gosh they could never [live in their own apartment], were absolutely successful on their own" (federal key informant).

Providing Context-Specific Training and Technical Assistance

Over time, the TTA team gained a more nuanced understanding of each community and its implementation challenges. One commonly experienced issue was dealing with individuals who had relatively complex support needs and/or repeat evictions. The TTA team dealt with this using a number of strategies that helped the teams deal with difficult situations while still maintaining a commitment to choice, recovery-oriented practice, and high-fidelity implementation.

With the ICM teams, the TTA encouraged a shift away from individual caseloads towards team-based practice, as is done within the ACT model. As a federal-level key informant noted, "[the ICM teams are] not at all doing a team-based approach so each of those workers is carrying these really complex cases by themselves. And, they're going to have—I would think they're at pretty high risk for burnout." The same person noted, "one way around that is to encourage more of that team-based approach which some communities are moving more towards—Halifax being one."

Another strategy adopted by the TTA was to have teams bring forward case scenarios that they could problem-solve with support from the TTA team. One common issue was participants "bringing people into their apartments from the street" and jeopardizing their tenancies. Through discussion underlying issues such as social isolation could be identified and addressed.

Finally, through the sessions, which often involved multiple HF Teams, the TTA was able to connect practitioners from different communities who were experiencing similar challenges and/or navigating similar stages of implementation. The next section describes the context-specific implementation issues in more detail, and illustrates the strategies that communities developed for addressing these, in conjunction with the support provided by the TTA.

What Contextual Factors Facilitated or Challenged Housing First Implementation and Fidelity?

The main barriers to implementation were: insufficient rent subsidies, moving beyond stabilization and towards recovery, and improving the reach of the intervention, by augmenting it to serve a wider range of individuals experiencing homelessness. For each of these barriers, we describe the strategies communities used to address them, and support provided by the TTA.

Insufficient Rent Subsidies and Limited Housing Availability

Communities experienced challenges with accessing enough rent subsidies, and more generally with making housing readily available to meet participants' choices. A comment by one federal key informant noted reasons that made housing availability a challenge for teams: "[They] don't have affordable housing …[they] don't have dedicated rent sups, [their] vacancy rates are very tight. So, [they] have a lot of concerns right now." In some suburban communities (e.g., York), this difficulty was exacerbated by limited housing stock (e.g., apartment blocks) of the variety that established HF teams in urban centers drew upon. The need to rehouse some participants added to the housing availability challenge.

In some cases, teams were unwilling to risk landlord relationships or limited stock on individuals they perceived as high-risk tenants, based on their previous housing history, or because of unsuccessful first tenancies. One key informant stated: "They're deciding 'oh, you're too risky. We're going to put you in this kind of crappy apartment until we see how you do'" (TTA key informant interview). This strategy, however, carried risks of its own, given that such low-quality housing was often in less desirable neighborhoods that could make it more difficult for individuals to manage their mental health and addictions.

Teams adopted various strategies to increase access to housing. In Saskatoon, the team secured new funding for a housing procurement specialist who could help build up the stock of housing. In Fraser and Waterloo, the teams gained access to more rent subsidies. Also, teams strived to adopt a recommendation of the fidelity team—to improve the housing specialist function. This included building a wider base of landlords, and improving the relationship between the support and housing teams so that the program could be more proactive in preventing housing loss.

As they took risks and experienced initial success, all communities became more comfortable about housing people they previously believed were not "housing ready."

As a key informant from Fraser said: "There's a conversion process that goes along with practicing the model," noting how clients' success fostered increased belief in the HF model. As another explained, "I've seen success with people I never would have thought would succeed" (Saskatoon focus group participant).

Through the TTA, teams became more proactive about helping people maintain their housing stability. As noted, trainers encouraged teams to work with clients to help them understand the reasons underlying an unsuccessful tenancy. Gradually, they became more adept at identifying common issues (e.g., "bringing people in") and strategizing around contributing factors to these issues, that included social isolation, feelings of obligation to others in one's previous street network, and problems establishing boundaries. For instance, one team developed an agreement where they would play the "bad cop" who would ask unwanted guests to leave. Other teams developed an increased focus on helping people rebuild their positive social networks.

Moving Beyond Stabilization and Towards Recovery

Challenges with teams' approaches regarding their support services made it difficult for teams to move beyond crisis-oriented practice, or stabilization, and to help some of their clients pursue recovery goals. While teams were typically strong on stabilizing clients in their housing, they tended to be weaker in providing the types of specialized supports (e.g., trauma-informed care) that could help clients better manage their mental health and addictions. ICM teams in particular lacked certain clinical skills, which led to situations where: "You have ICM workers that are not clinicians working in people's homes with really high acuity individuals" (TTA key informant interview). Because of the priority given to dealing with crisis situations, HF teams also tended to be less effective in supporting clients' broader recovery goals. Clients who had adjusted to their housing were contemplating "what now?" and whether they could reconnect with family, go back to school, or pursue some other aspiration.

Over time, teams developed their HF practice skills. Regarding client engagement, they became more intentional about helping people set recovery goals. They also provided opportunities for staff to build their capacity in both motivational interviewing and trauma-informed care. As well, ICM teams brokered relationships with specialized personnel within the formal mental health and addictions system, and they formed peer support groups.

In the early implementation phase, the focus was often on housing participants. As the following passage from a fidelity report describes, teams gradually became better at balancing housing stability with recovery goals.

During the start-up process, it can be difficult to focus on anything but placing participants in housing and attending to crisis. While formal goal planning can get pushed lower on the priority list, the team appears to have struck a balance between housing related activities and working on goals.

Taking the Model to Scale

Due to resource constraints, teams were often initially unable to serve the full range of need that existed in the community, and on their waiting lists. By engaging in reflective practice, and building on success, teams were able to "take the model to scale," or expand the teams' resources to meet the needs of more people experiencing homelessness. By reflective practice, we mean the practitioner's ability to reflect critically on one's work and engage in a process of continuous learning, growth, and improvement (Schön, 1983). In community psychology, Dokecki (1992) refers to reflective-generative practice as a collaborative approach in which the professional learns through experience in the community. Reflective practice could entail relatively informal or more formal ways of considering the impacts of the new ways of practicing. In one site, the funder conducted a formal evaluation that demonstrated significant cost savings; in another site, practitioners reflected on individual success stories. As one key informant said, "all that evidence sort of really helped to kind of mitigate those types of things" (i.e., overcome resource limitations and build support for expanding the approach more broadly).

By drawing on such success, both at the individual case level and program level, teams were able to strengthen their HF programs. For instance, in Waterloo, the results of an evaluation were instrumental in increasing the number of rent subsidies provided by the regional government from 40 to 150 (Pankratz, Nelson, & Morrison, 2017). Fraser also increased the number of subsidies and relaxed ACT service restrictions that previously favored heavy users of the mental health system, and increased access to the team by homeless people who were previously disengaged from care. In Saskatoon, the findings of an evaluation that showed reduced costs and service utilization in a number of domains were instrumental in the continued and increased funding for the team. As a result, the team, whose initial goal was to house 22 individuals, has now provided housing and support to over 40 individuals, with plans to expand further. As a focus group participant explained:

"So, the more we talk about the province and look at investing in more housing options and take this message of implementation and success in community will,

I think we'll see more investment in it and hopefully solve homelessness to some degree in Saskatoon."

At the same time, through reflective practice, the communities as a whole have learned about areas where adaptations are necessary, and facilitated the expansion of the model to be inclusive of the needs of the wider community. The most significant example here is the "Indigenization" of HF. Part of this involves acknowledging the specific needs and values of Indigenous clients around housing choice, and being able to accommodate choices around shared living arrangements. Teams have also helped clients connect to cultural practices, hired Indigenous team leaders and peer support workers, and used the medicine wheel to guide goal planning. As a focus group participant stated,

"given our demographics in Saskatoon …[this has been] on the minds of everybody as something important: to adopt the philosophy of Housing First but to have that First Nations focus and lens. And, so I think we are just scratching the surface there but there is a lot of promise and a lot of work being done in that area."

Discussion

In this section, we first discuss the outcomes of the TTA initiative to scale out HF. We then look at the influence of the TTA (or the implementation support system) on implementation outcomes. Next, we discuss the contextual factors that facilitated or challenged HF implementation and fidelity; here we consider the inner context of the program as well as the wider context surrounding the implementation delivery system (Damschroder et al., 2009; Wandersman et al., 2008). Finally, we discuss the implications of the findings for implementation science and practice.

The Outcomes of Efforts to Expand Housing First Programs

Over the 3-year period of the study, 14 new HF programs were created across the six communities, and another nine existing programs participated in the TTA. The growth of HF in these communities suggests that it is possible to expand HF even under less ideal conditions than those in the At Home/Chez Soi research demonstration project (i.e., no dedicated budget). Furthermore, fidelity assessments of 10 of these programs in the current initiative revealed that they were able to achieve levels of fidelity in early implementation that were quite similar to those achieved by 10 At Home/Chez Soi HF programs (Macnaughton et al., 2015). The fidelity findings from this study were quite similar to those in the U.S. Veterans Administration study. That study found that fidelity during early and later implementation was stronger for the housing component (no pre-conditions and rapid placement into housing) than for the support component (recovery philosophy and sufficient support) (Kertesz et al., 2017).

The Implementation Support System: The Influence of Training and Technical Assistance on Housing First Implementation and Fidelity

In general, the influence of the TTA (or implementation support system) had much to do with its ability to adapt in the face of complex real-world service contexts, a phenomenon which has been increasingly raised in critiques of linear approaches to implementation practice and research (Greenhalgh & Papoutsi, 2018). In our project, one aspect of addressing complexity related to the ability of the TTA to help communities understand the nuances of implementing this multi-faceted service model. Indeed, as an intervention characteristic, "complexity" has been noted to present a critical implementation challenge, since complex interventions, by definition, can be more difficult to codify (Damschroder et al., 2009) and thus harder to convey through written material or didactic training sessions. Examples of this include the complexity entailed in facilitating the smooth integration of housing and service teams within HF, or in the challenges of helping teams pivot from housing stability to recovery. The notion of complexity suggests that a support system, like the TTA program in this study, must make intentional efforts to elucidate less explicit parts of the model (e.g., the housing specialist), and allow practitioners the opportunity to discuss cases and learn experientially.

Another way in which the TTA adapted to complexity was by responding to the nuances of context, for instance, variations across host agency cultures within which the intervention operated in different sites. In At Home/Chez Soi, site implementation teams had latitude to choose the lead organizations, but in the current study, sponsor agency choices were in the hands of each community. In some cases, the local health authority assumed leadership, while in others, a community-based organization was in charge. Fidelity assessments suggested that each type of host agency choice had strengths and drawbacks. In the former instance, access to specialist resources (e.g., psychiatry) was a strength, while relatively inflexible ACT eligibility criteria were a drawback. On the other hand, while having less access to necessary clinical care, community-based agencies tended to be less risk averse and more recovery-oriented. Thus, it is important to adapt TTA to the unique challenges in each community. TTA for health authorities can emphasize a recovery philosophy and strategies for achieving it, while TTA for

community-based organizations can help them forge partnerships with formal mental health and addiction services.

In general, HF TTA or implementation support systems must be sensitive to the context of the implementation delivery system, and adapt to this context when possible. The next section takes a closer look at the implementation support system and the contextual factors that influence HF implementation.

The Implementation Delivery System: Contextual Factors that Facilitated or Challenged Housing First Implementation and Fidelity

The Delivery System and Its Context

The delivery system consists of individual practitioners, HF teams and their sponsor organizations, the surrounding system of care, and the context within the wider community, including evidence, climate, policy, and funding (Wandersman et al., 2008).

Individual practitioner capacity. Consistent with previous research, we found that having staff whose values are congruent with the HF model is important for high-fidelity implementation (Stefancic et al., 2013). However, we also found that there were sometimes gaps in staff skills, such as motivational interviewing, necessary to implement a recovery-based philosophy. Without these skills, clients could be hard to engage, which would negatively impact housing stability. This affirms that staff selection be based on considerations of the skill-set *and* the congruence between staff values and HF principles (Henwood, Shinn, Tsemberis, & Padgett, 2013). In efforts to scale out evidence-based practices for people with histories of homelessness, mental illness, and addictions, recent research has found that ACT and ICM staff members often struggle with their understanding and utilization of recovery-oriented strategies (McGraw et al., 2009) and require sustained TTA to enhance practice competencies (Chinman, McCarthy, Hannah, Byrne, & Smelson, 2017).

We also found that as staff gains experience and success with the HF model, they develop a growing belief in their skills to implement the model, and a stronger belief in the model itself. Similarly, a recent study (Stergiopoulos et al., 2016) of the Toronto At Home/Chez Soi site suggests that high-fidelity practice is based on practitioners' commitment to the model. The current study found that those initially skeptical may undergo a "conversion" after witnessing successful outcomes. All of the foregoing affirms that the successful adoption of new practice is more than a matter of values and skills. Practitioner self-efficacy, the belief in one's ability to achieve positive results through putting the new practice into play, is also important (Damschroder et al., 2009).

Team/host agency capacity. While practicing high-fidelity HF relates in part to the competencies of individual practitioners, successful implementation also depends on the collective capacity of the team, and the ability of its leadership to strategically address certain challenges. In the current study and in At Home/Chez Soi, despite generally high housing stability outcomes, procuring an adequate supply of affordable housing is a significant challenge, a situation that can become magnified by the need to rehouse a small but significant proportion of clients (Macnaughton et al., 2015). Another challenge reported was how to help clients who were stably housed to move towards recovery goals (e.g., social integration, employment). Evidence from our study and the VA initiative (Austin et al., 2014) indicates that these two challenges are inter-related, in that key informants suggest that the ongoing housing instability of a small group of people draws inordinate resources from the team, which leaves less time to support the recovery goals of a "silent majority." Similarly, the VA research affirmed the need for more proactive attention towards recovery goals, and suggested that without clear leadership, recovery may be perceived as lower in "relative priority" compared to housing stability (Austin et al., 2014). The VA study also suggested that HF teams segment off the most unstably housed for special attention by a sub-team, freeing up the usual team to provide recovery-oriented support to other clients (Austin et al., 2014). Research on scaling out evidence-based programs for homeless people with mental illness has identified other implementation challenges in team functioning, such as inexperienced and/or untrained staff and not having daily team meetings (Chinman et al., 2017).

Community context. Another apparently significant factor affecting implementation was the policy climate within the wider community context. In general, the shift in federal Homelessness Partnering Strategy policy towards HF created a climate that reinforced existing community efforts to implement HF, and spurred others to begin. Because homelessness service delivery in Canada is multi-jurisdictional, policies at various levels and sectors could also influence implementation. In particular, the policy environment contributed to differences across sites with respect to two key implementation challenges: securing housing subsidies (which impacted the fidelity dimensions of housing choice) and shifting towards recovery (which related to the fidelity dimension of service array).

Unlike in the At Home/Chez Soi and Veterans Administration initiatives, where rent subsidies were readily available, most communities in this study had to improvise to obtain rent subsidies, which presented a challenge with housing choice. Nonetheless, there was between-site

variation on ability to access housing subsidies that reflects differences in the policy climate across different communities. For instance, shifts in British Columbia provincial policy and within the Health Authority made subsidies increasingly available to the HF teams in Fraser. This reflected relatively high scores on Housing Choice on the fidelity scale (between 3.2 and 3.7), in contrast to the Ontario sites (York, Waterloo, both below 3), which operated within a less favorable provincial policy climate. Another recent study of HF implementation noted this challenge, and suggested that city or regional governments may play an important role in providing rent subsidies (Kennedy, Arku, & Cleave, 2017), such as was done in Waterloo, towards the end of the study.

Shifting away from stabilization and towards recovery was another implementation challenge that was broadly evident across sites. Here again, though, there were differences that reflect policy climate. This implementation challenge was arguably more of a concern in those sites that employed the ICM model, that were generally less able to implement a comprehensive array of supports. For instance, in Fraser Health, where HF ACT teams were routinely implemented, Service Array fidelity ranged between 3.2 and 3.8. In contrast, ICM team ratings on this dimension were generally below 3. The exception was Saskatoon's ICM team, at 3.7, which like the At Home/ Chez Soi ICM teams at later implementation (Macnaughton et al., 2015), had moved towards the ACT model by using team-based practice and developing strong partnerships that captured resources for the benefit of the team.

Implications for Implementation Science and Practice of Scaling Out Evidence-based Interventions

This study sheds light on scaling out HF, and offers insights for implementation science and practice in real-world contexts. From a practice perspective, the study suggests that the process of implementation is not linear, and affirms recent critiques of implementation approaches based on rigid, sequential approaches in favor of those based on an appreciation of complexity (Greenhalgh & Papoutsi, 2018). While linear logic models can provide guidance, implementation support systems must be prepared to discern and respond to numerous variations in context that are beyond their direct control. In contrast to research situations that compare a new intervention with usual care, real-world implementation takes place *within* usual care. Where research situations offer a chance to make choices about staff and host agencies, TTA strategies must account for real-world situations where aspects of staff or agency context (e.g., values and culture) may not be congruent with high-fidelity HF practice. While

research demonstration studies offer new resources to implement ACT teams and housing subsidies, in real-world situations, housing subsidies may not be readily available, and support team resources must come via repurposing existing resources, and/or through partnering with outside agencies. As we pointed out in an earlier paper (Worton et al., 2018), a complexity-based approach to the ISF (Wandersman et al., 2008) implies attention to interactions between the synthesis, support and delivery systems. An effective TTA thus must be able to convey clearly convey nuanced ideas and skills to practitioners of multi-component interventions operating within complex systems.

From an implementation science perspective, our study affirms the need to use mixed methods strategies (Schliep, Alonzo, & Morris, 2018), so that implementation delivery systems (in this case the HF teams) can receive real-time feedback: not only quantitative data about areas for improvement, but rich qualitative data that helps teams understand barriers that need to be addressed. At the same time, published mixed methods case studies that document common HF implementation challenges (such as this one) can provide guidance to future implementation efforts. While there have been calls to build a more rigorous evidence base about effective implementation strategies using experimental designs, we agree with others (Berwick, 2005; Greenhalgh & Fahy, 2015) who caution against seeking control over the vagaries and complexities of real-world implementation settings, and who instead would recommend rich case studies that seek to capture the nuances of how scale out strategies work within complex contexts.

Summary and Conclusions

In sum, despite the complexity of the intervention and its context and a lack of new resources, the TTA was able to help the six communities in this research to implement relatively high-fidelity HF programs. These communities developed a very adaptive attitude towards the relatively sudden change in Homelessness Partnering Strategy policy. In fact, some communities that had been eager to implement a HF program took advantage of the emerging opportunities made available through the new environment (e.g., favorable policy changes, resources for training). Other communities initially embarked on HF implementation less willingly and slowly came to value HF because of the success they achieved using this model.

The findings of this project suggest that implementation support systems that seek to scale out evidence-based interventions in real-world contexts must account for complexity in a number of ways. The TTA must be able to

flexibly convey difficult to codify information about multi-faceted interventions for addressing it, and help programs create bridges with the wider community to draw in the needed resources. Moreover, given the complexity of context, implementation strategies must be able to assess capacity at various levels (practitioner, agency, and community), and adapt their support to build on existing strengths at each level.

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